

THE EVOLUTION OF PUBLIC EXPENDITURE AND IMPLICATIONS FOR FISCAL SUSTAINABILITY IN ROMANIA

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Abstract

This paper examines the evolution of public expenditure structure and its implications for fiscal sustainability in Romania over the period 2000–2024, in the context of increasing budgetary pressures and macroeconomic volatility. The study employs a quantitative approach based on log-transformed multiple regression models estimated using Ordinary Least Squares (OLS), enabling the assessment of the impact of fiscal variables on economic performance and the determinants of government consumption. The results indicate that tax revenues have a positive and statistically significant effect on economic performance, supporting fiscal sustainability. However, public expenditure is dominated by rigid components, particularly government consumption and current expenditures, which limit fiscal flexibility. Public investment does not show immediate positive effects, suggesting inefficiencies or delayed returns, while increases in public employment and consumption further intensify fiscal rigidity. The study's main contribution lies in its integrated analysis of revenue and expenditure structures within a unified econometric framework, providing a clearer understanding of how fiscal composition influences sustainability. The findings highlight that fiscal sustainability depends not only on the level of public expenditure, but also on its composition and efficiency, offering relevant implications for improving fiscal discipline and policy effectiveness.

Keywords

public expenditure, fiscal sustainability, fiscal policy, government consumption.

JEL Classification

C22, E62, H50, H60, O47

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Introduction

Over the past two decades, fiscal sustainability has become a central concern in economic policy, particularly in the emerging economies of the European Union, where pressures on public finances are amplified by economic convergence, demographic changes, and the volatility of the macroeconomic environment. In Romania's case, the evolution of public spending has been marked by profound structural transformations, driven by the transition to a market economy, accession to the European Union, and the need to align with the requirements of the Stability and Growth Pact. The period 2000–2024 reflects a complex dynamic in public finances, characterized by the expansion of budgetary expenditures, particularly current expenditures, as well as significant fluctuations in tax revenues. The global financial crisis of 2008–2009, followed by fiscal consolidation measures, as well as the recent shocks caused by the COVID-19 pandemic and the energy crisis, have highlighted the structural vulnerabilities of the public budget and the need for efficient management of fiscal resources. In this context, the structure of public expenditures becomes a determining factor for fiscal sustainability, not just their aggregate level.

The literature emphasizes that the impact of public spending on economic growth and fiscal sustainability depends largely on its composition. Thus, investment-oriented spending is associated with positive effects on long-term economic growth (Tovar Jalles, Park and Qureshi, 2024; Sosvilla-Rivero, Ramos-Herrera and Rubio-Guerrero, 2025), while current expenditures can generate fiscal rigidities and deficit pressures (Angeletos, Lian and Wolf, 2024; Jo and Zubairy, 2025; OECD, 2025b). Furthermore, the role of tax revenues in supporting macroeconomic stability is highlighted in a number of studies (Athanasios, Charalampos and Eleni, 2022; Ionascu and Olteanu Burca, 2025; Maashani *et al.*, 2025), which underscore the importance of an efficient and sustainable tax system.

At the institutional level, the European framework imposes clear constraints on Member States' fiscal policies through the Stability and Growth Pact (European Commission, 2026) and the European Semester (European Council, 2025), which aim to keep the budget deficit and public debt within sustainable limits. At the same time, instruments such as the National Recovery and Resilience Plan (NRRP) (European Commission, 2023, 2024c) and national strategies on the sustainability of public finances promote the reorientation of spending toward productive investments and increased efficiency in the use of public resources. In Romania's case, recent fiscal and budgetary strategies emphasize the need for fiscal consolidation, the digitization of public administration, and improved revenue collection.

In this context, the present study addresses an important gap in the literature by advancing an integrated perspective on fiscal sustainability. While existing research predominantly examines either the impact of tax revenues on economic performance or the effects of public expenditure structure in isolation, this paper develops a unified analytical framework that simultaneously captures both dimensions. By combining the analysis of revenue mobilization and expenditure composition within two complementary econometric models, the study provides a more comprehensive understanding of the mechanisms through which fiscal structure influences sustainability outcomes.

This integrated approach allows for a deeper assessment of the interaction between budgetary components, going beyond traditional aggregate or single-dimension analyses. As such, the paper contributes to the literature by offering new empirical evidence on how the composition and efficiency of public finances shape fiscal sustainability in Romania, an emerging European Union economy characterized by structural rigidities and evolving fiscal constraints.

The main objective of this paper is to analyse how the evolution and structure of public spending influence fiscal sustainability in Romania. To this end, the research aims to:

O1. Assessing the relationship between tax revenues, public spending, and economic performance.

O2. Identifying the determinants of government consumption and budget rigidity.

O3. Highlighting the role of various components of public spending in ensuring fiscal balance.

Based on these objectives, the study addresses the following research questions:

R1: To what extent do tax revenues contribute to supporting economic performance and fiscal sustainability?

R2: How does the rigidity of public spending affect the flexibility of fiscal policy in Romania?

By addressing these questions, this paper contributes to the literature and offers relevant implications for the formulation of fiscal policies oriented toward stability and sustainable development.

The paper is structured as follows: the next section presents the theoretical framework and a review of the literature, followed by the research methodology, empirical results and related discussions, fiscal policy implications, and finally, the conclusions, as well as the limitations and directions for future research.

1. Review of the scientific literature

The analysis of the relationship between the structure of public spending and fiscal sustainability is one of the central themes in contemporary public finance literature, particularly in the context of emerging economies and the institutional constraints imposed by European integration. In recent decades, the theoretical debate has shifted from a predominantly quantitative approach, focused on the aggregate level of public expenditure, toward a qualitative-structural perspective, which highlights the importance of budget composition in determining economic performance and fiscal stability (OECD, 2022; Rocchetta *et al.*, 2022; Fortea, 2025; Yakovenko *et al.*, 2026). This paradigm shift reflects the recognition that it is not the absolute level of public spending that determines fiscal sustainability, but rather how it is allocated between productive and non-productive components (Andersson Järnberg and Värja, 2023; Agénor and Pereira da Silva, 2025; OECD, 2025b).

At the same time, the literature highlights the fact that fiscal sustainability cannot be analysed in isolation from the state's ability to raise tax revenues and the institutional context in which fiscal policies are formulated (Cuadrado-Ballesteros and Bisogno, 2021; Lobonț *et al.*, 2025). Within the European Union, the constraints imposed by the Stability and Growth Pact (Căpraru, Pappas and Sprincean, 2025; Heimerger, 2025; Južnik Rotar, 2025a), as well as the coordination mechanisms within the European

Semester (Casagrande and Dallago, 2022; Fasone and Simoncini, 2025), have led to an intensification of research on the interaction between budget structure, fiscal discipline, and economic growth.

In the case of emerging economies, such as Romania, the literature highlights the existence of structural vulnerabilities associated with the predominance of current expenditures and the low efficiency of public investments, which generate pressures on the sustainability of public finances (Ocolişanu, Dobrotă and Dobrotă, 2022; European Commission, 2024b; Mihai, Dumitrescu and Bozagiu, 2025). In this context, the literature review focuses on three main areas: the role of tax revenues in supporting macroeconomic stability, the impact of the structure of public spending on economic growth, and the implications of fiscal rigidity on the flexibility of fiscal policy.

1.1. The role of fiscal revenues and macroeconomic stability

Classical and contemporary literature emphasizes the fundamental role of tax revenues in ensuring macroeconomic stability and fiscal sustainability. Theoretical models developed in the literature (Martinez-Bravo and Wantchekon, 2023; Spataro and Crescioli, 2024; Jensen and Weigel, 2026) highlight that the optimal level of taxation is determined by the need to finance productive public goods without excessively distorting economic agents' decisions. Along the same lines, other studies (Reis, 2022; Ciaffi, Deleidi and Di Domenico, 2024; Afonso, Alves and Coelho, 2025) show that the structure of tax revenues and the credibility of fiscal policies directly influence market perceptions of public debt sustainability.

Empirical studies (Jalles *et al.*, 2024; Salamaliki and Venetis, 2024; Nakatani *et al.*, 2026) confirm that a high capacity for tax revenue collection helps reduce the budget deficit and increase the fiscal space needed to implement countercyclical policies. In emerging economies, this capacity is often limited by tax evasion, the size of the informal economy, and the low efficiency of tax administration, which amplifies fiscal vulnerabilities. In the case of Romania, the literature (Yurdadoğ *et al.*, 2022; European Commission, 2024a; Pîrvu, Liñă and Stanciu-Tolea, 2026) indicates that tax revenues are below the European Union average, which limits the ability to finance public investments and increases dependence on expenditure adjustments.

At the same time, social contributions play an important role in financing social protection systems, but excessive reliance on these sources can lead to long-term imbalances, particularly in the context of demographic changes. The literature highlights the fact that diversifying the revenue base and improving the efficiency of tax collection are essential conditions for strengthening fiscal sustainability (OECD, 2024; World Bank Group, 2025).

At the institutional level, the European framework imposes additional constraints on fiscal policies through rules on public deficit and debt, which require member states to maintain a balance between revenue mobilization and expenditure control. Thus, the literature highlights that fiscal sustainability does not depend exclusively on the level of revenues, but on the state's ability to align its dynamics with the evolution of public spending within a coherent institutional framework.

1.2. Structure of public expenditure and economic growth

One of the most debated topics in the literature is the impact of the structure of public spending on economic growth. Specialized studies (Timilsina, Stern and Das, 2024; Tovar Jalles, Park and Qureshi, 2024) have highlighted the positive role of public investment in infrastructure on productivity and long-term economic growth. Subsequently, a series of studies (Behera, Haldar and Sethi, 2024; Marcos and Vale, 2024; Fortea et al., 2025) confirmed that public investment helps reduce transaction costs and stimulate economic activity, particularly in developing economies.

In contrast, the literature (Al-Thaqeb, Algharabali and Alabdulghafour, 2022; Boeing, Eberle and Howell, 2022; Nguyen and Bui, 2022) highlights that current expenditures, particularly those associated with government consumption and personnel costs, have limited or even negative effects on economic growth. Chen, Yang, and Yu (Chen, Yang and Yu, 2024) show that a high share of current expenditures can lead to fiscal rigidities and reduce the efficiency of public resource allocation. Furthermore, Uddin et al. (Uddin *et al.*, 2026) highlight that not all types of public spending are productive, and their impact depends on the efficiency of implementation and the institutional context.

In the case of emerging economies, research (Mohd Thas Thaker, Baryal and Taghizadeh-Hesary, 2024; Sosvilla-Rivero, Ramos-Herrera and Rubio-Guerrero, 2025; Francois, Konte and Ruch, 2026) highlights a discrepancy between the level of public investment and its efficiency, leading to delayed or insignificant effects on economic growth. This situation is frequently associated with governance issues, inefficient project selection, and implementation delays.

Furthermore, recent literature (Esposito, Akbar and Campbell, 2025; Khursheed, Fuinhas and Verna, 2025; Socol *et al.*, 2025) highlights the importance of redirecting public spending toward strategic areas, such as education, health, and digitalization, in order to support sustainable economic growth. In this regard, the structure of public spending becomes a key determinant of economic performance, and its analysis provides relevant information for the formulation of fiscal policies.

1.3. Budget rigidity and fiscal sustainability

The concept of fiscal rigidity occupies a central place in the literature on fiscal sustainability, defined as the inability of governments to rapidly adjust their expenditure structure in response to economic conditions. Specialized studies (Arespa and González-Alegre, 2023; Menguy, 2024; OECD, 2025b) show that the expansion of the public sector and the increase in current expenditures lead to budgetary rigidity, limiting the flexibility of fiscal policy.

Other studies (Çiçekçi and Gaygısız, 2023; Nguyen and Nguyen, 2023; Jalles *et al.*, 2024; Utouh and Kitole, 2025) highlight that fiscal policies are often procyclical in emerging economies, which amplifies economic fluctuations and reduces the effectiveness of government intervention. In this context, the rigidity of public spending becomes a risk factor for fiscal sustainability, particularly during periods of economic crisis.

The literature (Ritonga and Buanaputra, 2024; Kabeya, 2025) emphasizes that the main sources of fiscal rigidity are personnel expenditures, social transfers, and long-term commitments, which limit the ability to adjust the budget quickly. In the case of

Romania, studies (Ocolişanu, Dobrotă and Dobrotă, 2022; Muraraşu, Anghelescu and Grecu, 2023; Mihai, Dumitrescu and Bozagiu, 2025) highlight that the high share of current expenditures reduces the fiscal space available for public investment and limits the capacity to respond to economic shocks.

At the same time, the institutional framework plays a key role in managing fiscal rigidity. Strict fiscal rules, budget transparency, and fiscal responsibility help reduce the risks associated with rigidity and strengthen fiscal sustainability. In this context, it becomes necessary to implement structural reforms that allow for greater flexibility in public spending and increase its efficiency.

1.4. Research gap

Although the existing literature offers significant insights into the relationship between tax revenues, the structure of public spending, and fiscal sustainability, it has a number of relevant limitations. A considerable portion of the studies analyse either the impact of tax revenues on economic growth or the effects of the structure of public spending separately, without integrating these two dimensions into a unified analytical framework. At the same time, empirical research on emerging economies, including Romania, remains relatively limited, and the available results are often inconclusive regarding the efficiency of public investment and the role of budget rigidity.

Furthermore, the literature predominantly uses static models or aggregate approaches, which do not adequately capture the interdependencies between fiscal variables and the internal dynamics of public spending. Thus, there is a need to develop integrated analyses that combine the perspectives of public revenue and spending and highlight the mechanisms through which the budget structure influences fiscal sustainability.

In this context, the present study contributes to the existing literature by proposing a dual approach, based on two complementary econometric models, which allow for the simultaneous assessment of the impact of tax revenues on economic performance and the determinants of government consumption, thereby offering a more nuanced perspective on fiscal sustainability in Romania.

A review of the literature highlights the fact that fiscal sustainability is a multidimensional concept, determined by the complex interaction between tax revenues, the structure of public spending, and the institutional framework. Although there is a consensus in the literature regarding the importance of public investment and fiscal discipline, empirical results suggest that the effectiveness of these factors depends largely on the economic and institutional context.

In the case of emerging economies, such as Romania, the challenges are amplified by budgetary rigidity and the low efficiency of public resource allocation, which justifies the need for in-depth empirical analyses. By integrating theoretical and empirical perspectives, this section establishes the conceptual framework of the research and highlights the relevance of analysing the structure of public spending for understanding fiscal sustainability.

2. Research methodology

The analysis is grounded in a quantitative approach, based on the use of log-transformed multiple regression econometric models applied to a set of macroeconomic data for

Romania covering the period 2000–2024. The choice of this time frame is motivated by the need to capture the evolution of the public expenditure structure over an extended horizon, which includes both the pre-accession and European integration phases, as well as post-crisis fiscal adjustment processes, budgetary consolidation, and the occurrence of major exogenous shocks, such as the global financial crisis, the COVID-19 pandemic, and the energy crisis, all of which significantly influence the dynamics of fiscal sustainability.

In line with the paper's objective—namely, to analyse the evolution of public expenditures and their implications for fiscal sustainability—two complementary econometric models are estimated using the ordinary least squares (OLS) method. All variables are expressed in natural logarithms, which allows the coefficients to be interpreted as elasticities and helps stabilise the variance of the series.

The indicators used in the empirical analysis are expressed in millions of national currency units (lei) and were selected to reflect both the size of public revenues and the structure of budget expenditures. Thus, the included variables are: tax revenues (Taxes), social contributions (Scontrib), total public expenditures (Texp), gross fixed capital formation (GFCF), government final consumption expenditure (GovFConExp), government sector employment (GovEmpl), expressed in thousands of people, as well as government consumption (GovCon). Furthermore, gross domestic product (GDP), used as the dependent variable in the first model, is expressed in millions of lei. To ensure intertemporal comparability and to reduce data dispersion, all monetary variables were transformed into natural logarithms, allowing the estimated coefficients to be interpreted as elasticities.

The first model investigates the impact of the structure of public revenues and expenditures on macroeconomic performance, using gross domestic product as the dependent variable, considered a relevant proxy for the economy's ability to sustain fiscal balance:

$$\log(\text{GDP}_t) = \alpha_0 + \alpha_1 \cdot \log(\text{Taxes}_t) + \alpha_2 \cdot \log(\text{Scontrib}_t) + \alpha_3 \cdot \log(\text{Texp}_t) + \alpha_4 \cdot \log(\text{GFCF}_t) + \alpha_5 \cdot \log(\text{GovFConExp}_t) + \alpha_6 \cdot \log(\text{GovEmpl}_t) + \varepsilon_t \quad (1)$$

The second model focuses on the internal dynamics of public spending, with government consumption as the dependent variable, and captures how various budget components influence the level and rigidity of spending:

$$\log(\text{GovCon}_t) = \beta_0 + \beta_1 \cdot \log(\text{Taxes}_t) + \beta_2 \cdot \log(\text{Scontrib}_t) + \beta_3 \cdot \log(\text{Texp}_t) + \beta_4 \cdot \log(\text{GFCF}_t) + \beta_5 \cdot \log(\text{GovFConExp}_t) + \beta_6 \cdot \log(\text{GovEmpl}_t) + u_t \quad (2)$$

The selection of explanatory variables is carried out in accordance with the literature (Cuadrado-Ballesteros and Bisogno, 2022; Alshuib *et al.*, 2023; Afonso, Alves and Coelho, 2025) on fiscal sustainability and the role of the composition of public expenditure. Tax revenues (Taxes) and social contributions (Scontrib) reflect the state's capacity to mobilize budgetary resources, which is essential for maintaining fiscal balance (Verdier *et al.*, 2022; OECD, 2025a). Total expenditures (Texp) capture the aggregate scale of government intervention and, according to Wagner's law, are

correlated with the level of economic development (Gallegati and Tamperi, 2022; Južnik Rotar, 2025b).

About the structure of expenditures, gross fixed capital formation (GFCF) is included to highlight the role of public investment, which is considered a key determinant of sustainable economic growth and long-term fiscal consolidation (Buthelezi, 2025; Blesse *et al.*, 2026). In contrast, government final consumption expenditure (GovFConExp) reflects the rigid component of public spending, associated with persistent pressures on the budget deficit (Menguy, 2025; Cavalieri, 2026).

The variable for government employment (GovEmpl) is included to capture the size of the administrative apparatus and its implications for expenditure rigidity, as the literature suggests that an expanded public sector may reduce the efficiency of resource allocation (Goh and Mohd Aznan, 2023; Sosvilla-Rivero, Ramos-Herrera and Rubio-Guerrero, 2025). used as the dependent variable in the second model, represents a synthetic indicator of public resource use and spending policies, and is frequently associated with the analysis of fiscal sustainability and budgetary policy (Afonso and Alves, 2023; Chrysanthakopoulos *et al.*, 2025).

Through this methodological framework, the study captures both the scale and the structure of public spending, highlighting how these factors influence fiscal sustainability in Romania. The use of two complementary models allows for an integrated analysis, both from the perspective of macroeconomic performance and the internal dynamics of budgetary expenditures, thus providing a solid basis for formulating fiscal policies oriented toward stability and efficiency.

The use of the Ordinary Least Squares (OLS) estimator provides a straightforward and interpretable framework for assessing the relationships between fiscal variables. However, several limitations should be acknowledged. First, the analysis is based on annual time-series data, which may limit the number of observations and reduce the statistical power of the estimations. Second, the OLS approach does not explicitly account for potential endogeneity issues, such as reverse causality between fiscal variables and economic performance. Third, the presence of autocorrelation or heteroskedasticity in the residuals may affect the efficiency of the estimates.

To address these concerns, diagnostic tests and robustness checks have been conducted to ensure the reliability of the results. Multicollinearity among the explanatory variables was assessed using the Variance Inflation Factor (VIF). The results indicate that the VIF values remain within acceptable thresholds, suggesting the absence of severe multicollinearity and supporting the stability of the estimated coefficients.

The following hypotheses were formulated:

H1. Tax revenues and social contributions have a positive impact on economic performance, indirectly contributing to fiscal sustainability by broadening the economic base.

H2. Investment-oriented public spending (gross fixed capital formation) has a positive effect on fiscal sustainability in the medium and long term, while the expansion of total spending puts pressure on the budget balance.

H3. An increase in government consumption expenditure and public sector employment leads to higher government consumption, exacerbating expenditure rigidity and reducing fiscal flexibility.

H4. The structure of public spending has a differentiated impact on fiscal sustainability, in that productive spending (public investment) has favourable effects, while rigid spending (government consumption and current expenditures) amplifies fiscal imbalances.

The methodological framework adopted makes it possible to assess how trends in public spending affect fiscal sustainability in Romania, providing a solid empirical basis for formulating fiscal policies aimed at long-term stability and efficiency.

3. Results and discussion

It is important to note that the estimated relationships should be interpreted as statistical associations rather than strict causal effects, given the use of OLS models applied to annual data. Therefore, the results should be viewed as indicative of underlying fiscal dynamics rather than definitive evidence of causal mechanisms.

The analysis of the results is preceded by an overview of Romania's macroeconomic and fiscal framework for the period 2000–2024, characterised by significant structural transformations, European convergence processes, episodes of fiscal consolidation, as well as major exogenous shocks, including the global financial crisis of 2008–2009, the COVID-19 pandemic, and recent energy tensions. These developments have directly influenced both the dynamics of public revenues and the structure of budget expenditures, generating pressures on the fiscal balance and the sustainability of public finances.

An initial overview of these developments is provided by the descriptive statistics presented in Table 1, which summarises the main characteristics of the variables used in the analysis.

Table no. 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GovCon	25	113054.56	82995.199	13634.4	325699.3
Taxes	25	118099.84	73545.877	15489.5	298612
Scontrib	25	71362.52	53083.497	9254.1	206518.2
Texpnd	25	264505.84	191956.42	31161.9	766175.3
GFCF	25	31281.048	24231.584	2791.3	103192.3
GovFConExp	25	113250.94	82755.611	18544	325699.3
GovEmpl	25	1440.864	71.65	1328.5	1610.4

Source: Elaborated by authors using Stata 19

The results show that, during the period under review, government consumption (GovCon) averaged 113054.56 million lei, reflecting a high level of state intervention in the economy. Similarly, tax revenues (Taxes) averaged 118099.84 million lei, suggesting a relatively strong capacity to mobilize fiscal resources. Social contributions (Scontrib), with an average value of 71362.52 million lei, highlight their important role in financing the public system, particularly in the context of rising social expenditures and demographic pressures. At the same time, total public expenditures (Texp) reach the highest average value, at 264505.84 million lei, reflecting the extent of state intervention in the economy and the trend toward expanding the role of the public sector during the period analysed.

The high dispersion of total expenditures, evidenced by a standard deviation of 191956.42, indicates significant fluctuations in fiscal policy, driven by both economic cycles and discretionary measures adopted during periods of crisis. The same trend is observed in the case of government consumption and tax revenues, suggesting a high sensitivity of public finances to macroeconomic developments.

In terms of the expenditure structure, gross fixed capital formation (GFCF) amounts to a relatively low average of 31281.048 million lei compared to other budget components, indicating a modest level of public investment. This situation reflects a predominant orientation of expenditures toward current components, to the detriment of productive ones, an aspect frequently highlighted in the specialised literature as a structural vulnerability of the Romanian economy.

Government final consumption expenditure (GovFConExp) averages 113250.94 million lei, close to that of government consumption, highlighting the high share of current expenditures and the rigid nature of the budget structure. This rigidity is further reinforced by the relatively stable level of employment in the government sector (GovEmpl), which averages 1440864 people and shows little variation, suggesting difficulties in rapidly adjusting expenditures in the context of budgetary constraints.

An analysis of the minimum and maximum values reveals the extent of variation for most indicators, particularly for total public expenditure and government consumption, reflecting the impact of economic shocks and expansionary fiscal policies implemented during certain periods. The high maximum values of these variables can be associated with episodes of rising budget deficits, while the minimum values reflect periods of fiscal adjustment and budget consolidation.

Descriptive statistics indicate the existence of imbalances in the structure of public spending, characterized by the predominance of current expenditures and a relatively low level of public investment. These results justify the need for an in-depth econometric analysis to assess the impact of the budget structure on fiscal sustainability in Romania.

Figure 1 presents the evolution of tax revenues (Taxes), social contributions (Scontrib), and total public expenditures (Texp) in Romania over the period 2000–2024, highlighting the general upward trend in all indicators, against the backdrop of the expanding role of the state in the economy.

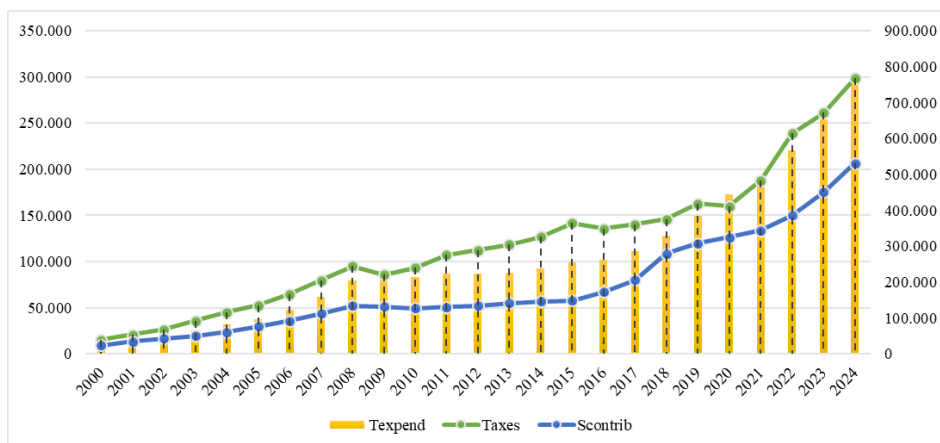


Figure no. 1: Evolution of Public Revenues and Expenditures in Romania (2000–2024)

A relatively steady upward trend is observed through 2008–2009, followed by a moderate adjustment linked to the global financial crisis, after which the trajectory of the indicators resumes its upward trend. Starting in 2015, the growth has been more pronounced, reflecting both economic expansion and more accommodative fiscal policies.

A relevant aspect is the significant acceleration in public spending after 2020, in the context of the COVID-19 pandemic and economic support measures, which led to a faster increase in spending compared to revenues. This divergence between revenue and expenditure dynamics suggests emerging pressures on the budget balance and, implicitly, on fiscal sustainability. Social contributions follow a trend similar to tax revenues, though at a lower level, reflecting the structure of Romania’s public financing system. Overall, the figure highlights a simultaneous increase in public revenue and expenditure, as well as a possible deterioration of the fiscal balance during periods of expenditure expansion, confirming the relevance of analysing the budget structure in assessing fiscal sustainability.

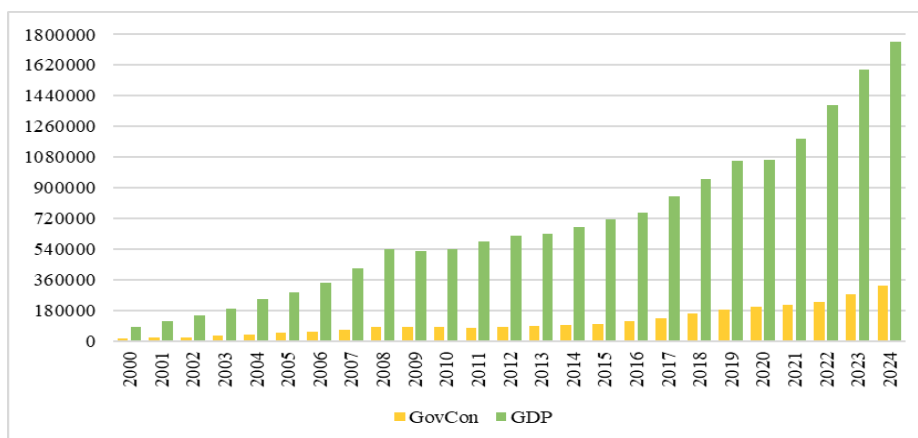


Figure no. 2: Evolution of Government Consumption and GDP in Romania (2000–2024)

Figure 2 highlights the simultaneous growth of government spending and GDP between 2000 and 2024, suggesting a positive correlation between the trend in public spending and economic performance. GDP shows accelerated growth, particularly after 2015, while government consumption follows a more moderate but steady upward trend. After 2020, both variables intensified, reflecting the economic support measures adopted in the context of the pandemic. Overall, the trend indicates that the expansion of public spending is accompanied by economic growth, but the difference in pace suggests implications for long-term fiscal sustainability.

Table 2 presents the correlation matrix between the variables included in the analysis, providing an initial assessment of the linear relationships between the components of public revenue and expenditure.

Table no. 2. Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) logGovCon	1.000						
(2) logTaxes	0.986	1.000					
(3) logScontrib	0.998	0.977	1.000				
(4) logTexp	0.995	0.992	0.991	1.000			
(5) logGFCF	0.948	0.965	0.938	0.968	1.000		
(6)	0.998	0.980	0.996	0.993	0.944	1.000	
logGovFConExp							
(7) logGovEmpl	0.141	0.120	0.146	0.168	0.303	0.120	1.000

Source: Elaborated by authors using Stata 19

The results highlight the existence of strong, positive correlations between most of the variables, reflecting the high interdependence between the size of budget revenues and the structure of public expenditures in the Romanian economy.

Table 3 presents the results of the multicollinearity test, assessed using the variance inflation factor (VIF).

Table no. 3. Variance inflation factor

Variables	VIF	1/VIF
logTexp	8.656	0.002
logScontrib	4.760	0.005
logGovFConExp	2.863	0.005
logTaxes	7.577	0.009
logGFCF	3.815	0.019
logGovEmpl	3.207	0.312
Mean VIF	3.480	.

Source: Elaborated by authors using Stata 19

The results indicate that most of the explanatory variables fall within acceptable limits, with an average VIF of 3.480, suggesting the absence of severe multicollinearity issues within the model.

Table 4 presents the results of the estimation of the two econometric models, highlighting the impact of the structure of public revenues and expenditures on economic performance and the dynamics of government consumption in Romania. The high level of the coefficient of determination ($R^2 = 0.69$ for Model 1 and $R^2 = 0.89$ for Model 2) indicates the models' strong explanatory power, confirming the relevance of the included variables.

Table no. 4. Model results

Variables	(1) Model 1: logGDP	(2) Model 2: logGovCon
logTaxes	0.679*** (0.0824)	0.268*** (0.0821)
logScontrib	0.0680 (0.106)	0.399*** (0.105)
logTexp	0.430*** (0.147)	0.000797 (0.146)
logGFCF	-0.165*** (0.0452)	-0.0593 (0.0451)
logGovFConExp	0.0200 (0.103)	0.446*** (0.102)
logGovEmpl	0.501** (0.215)	0.408* (0.214)
Constant	-2.787 (1.683)	-3.513* (1.678)
R-squared	0.69	0.89

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Elaborated by authors using Stata 19

In Model 1, tax revenues (logTaxes) have a positive and statistically significant effect on GDP (0.679), confirming the essential role of fiscal resource mobilization in

supporting economic growth. Similarly, social contributions ($\log S_{\text{contrib}}$) have a positive effect, although not statistically significant, suggesting a smaller influence on aggregate economic performance. These results support Hypothesis H1 and are consistent with the literature, which highlights the role of tax revenues in financing public investment and supporting macroeconomic stability (Gnangnon, 2021; Athanasios, Charalampos and Eleni, 2022; Ciaffi, Deleidi and Di Domenico, 2024; Maashani et al., 2025).

Total public expenditure ($\log T_{\text{exp}}$) has a positive and significant impact on GDP (0.430), reflecting the expansionary effects of fiscal policy; however, this result must be interpreted in the context of fiscal sustainability, where an expansion in spending can lead to long-term budgetary imbalances. In contrast, gross fixed capital formation ($\log GFCF$) has a negative and significant coefficient (-0.165), suggesting that, during the period analyzed, public investments did not have an immediate positive effect on economic growth, possibly due to their low efficiency or delays in the materialisation of their effects. These results support Hypothesis H2 and reflect similar conclusions in the empirical literature regarding the variable efficiency of public investment (Boeing, Eberle and Howell, 2022; Volden and Welde, 2022; He *et al.*, 2023; Ho, Xuan Hang, and Nguyen, 2023).

In Model 2, the results highlight the determinants of government consumption, where social contributions (0.399) and government final consumption expenditure (0.446) have a positive and highly significant impact on it. Furthermore, tax revenues (0.268) and public sector employment (0.408) positively influence government consumption, confirming that the expansion of the administrative apparatus and the increase in budget revenues are associated with higher current expenditures. These results validate Hypothesis H3 and are consistent with the literature on the rigidity of public spending and its role in limiting fiscal flexibility (Menguy, 2023; Grosse-Steffen, Pagenhardt and Rieth, 2025; OECD, 2025b).

About Hypothesis H4, the results indicate that the structure of public spending has a differentiated impact on fiscal sustainability. Thus, current expenditures, reflected in government consumption and final consumption expenditures, have a positive and significant impact on public expenditure dynamics, contributing to budget rigidity, while public investments (GFCF) do not generate immediate favourable effects on economic performance. These findings support Hypothesis H4 and are consistent with the literature emphasizing the importance of the composition of public spending in determining fiscal sustainability (Bashir *et al.*, 2024; La Torre *et al.*, 2024; Afonso and Coelho, 2025).

The results highlight the fact that, although tax revenues support economic growth, the structure of public spending in Romania is dominated by rigid components with limited effects on long-term development, which may put pressure on fiscal sustainability. These conclusions underscore the need to reorient fiscal policies toward productive investments and to increase the efficiency of public spending.

The empirical results highlight the need to reconfigure Romania's fiscal policy toward increasing the efficiency of public resource allocation and strengthening fiscal sustainability. In this regard, a first direction aims to improve tax revenue collection

capacity by digitizing the tax administration and reducing tax evasion, given the positive and significant impact of tax revenues on economic performance.

A second area of intervention involves reorienting the structure of public spending toward productive investments, particularly in infrastructure, education, and digitalization, with a view to increasing long-term multiplier effects. The results indicate that public investments do not generate significant immediate effects, suggesting the need to increase their efficiency and improve project selection and implementation mechanisms.

At the same time, it is necessary to limit the expansion of current expenditures, particularly those associated with government consumption and the administrative apparatus, which contribute to budget rigidity and reduce fiscal flexibility. Optimising the size of the public sector and streamlining personnel expenditures can help reduce pressures on the budget deficit.

Furthermore, aligning the dynamics of public spending with the evolution of tax revenues is essential for maintaining budgetary balance, particularly during periods of economic expansion, when procyclical fiscal policies can amplify imbalances. In this context, adopting stricter fiscal rules and strengthening the institutional framework can help ensure budgetary discipline.

Diversifying revenue sources and reducing dependence on social contributions can support the sustainability of the tax system, particularly in the context of demographic changes. Implementing fiscal policies aimed at broadening the tax base and increasing employment in the private sector can contribute to the long-term consolidation of public finances.

While the empirical findings provide relevant insights into the relationships between fiscal variables, their translation into policy recommendations should be approached with caution, as the estimated coefficients capture average associations that may vary across different economic contexts and time horizons.

Conclusions

An analysis of the evolution of the structure of public expenditure and its implications for fiscal sustainability in Romania, using an econometric framework based on two regression models for the period 2000–2024. The results highlight that tax revenues play an essential role in supporting economic performance, confirming the importance of the efficient mobilization of budgetary resources for maintaining macroeconomic balance. At the same time, the structure of public spending proves to be a determining factor in fiscal sustainability, given that the predominance of current expenditures and their rigidity limit the flexibility of fiscal policy.

Empirical analysis reveals that, although the expansion of public spending may have positive short-term effects on economic growth, it puts pressure on the budget balance in the absence of an adequate correlation with tax revenues. Furthermore, public investment has not shown significant immediate effects on economic performance, suggesting possible shortcomings in the efficiency of resource allocation or delays in the materialisation of its effects. In contrast, consumption expenditures and the size of the administrative apparatus contribute to budgetary rigidity and the exacerbation of

fiscal imbalances, confirming the relevance of the expenditure structure in the analysis of fiscal sustainability.

However, the study has a number of limitations that must be considered when interpreting the results. First, the analysis is conducted at the aggregate level, using annual macroeconomic data, which does not allow for capturing sectoral differences or dynamics at the microeconomic level. Second, the econometric model used is of the static type (OLS), without explicitly accounting for potential endogeneity issues or dynamic effects, which may affect the robustness of the estimates. Furthermore, the period analysed includes major exogenous shocks, whose effects may distort the structural relationships between variables.

Regarding future research directions, it is recommended to expand the analysis by using dynamic econometric models, such as the Generalized Method of Moments (GMM) or panel models with fixed and random effects, to more rigorously control for endogeneity and unobserved heterogeneity. Furthermore, a disaggregated approach to public spending, by functional categories (education, health, social protection), could provide a more detailed perspective on the efficiency of resource allocation. The integration of institutional and governance variables, such as the quality of institutions or the level of corruption, could contribute to a better understanding of the mechanisms influencing fiscal sustainability. Finally, expanding the analysis to a comparative level by including other European Union member states would allow for the identification of best practices in public finance management.

The results obtained underscore the need to reorient Romania's fiscal policies toward a more balanced and efficient structure of public spending, with a view to ensuring long-term fiscal sustainability.

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